In the Claims:

Please amend claims 1 and 2. The claims are as follows:

1. (Currently amended) A method for forming a seed layer on a semiconductor structure, the method comprising the steps of:

depositing the seed layer on the semiconductor structure using a deposition tool, the seed layer comprising a metal; ~~and~~

determining a water condensation temperature of an ambient environment surrounding the deposition tool; and

after said depositing and said determining are performed, raising the temperature of the seed layer above a the water condensation temperature, wherein the seed layer has not been subjected to water vapor prior to raising the temperature of the seed layer.

2. (Currently amended) The method of claim 1 ~~2~~, further comprising the step of maintaining the seed layer above the water condensation temperature while the seed layer is being subjected to the water vapor.

3. (Original) The method of claim 1, further comprising the step of depositing a bulk layer directly on the seed layer after the step of raising the temperature of the seed layer above the water condensation temperature, wherein the bulk layer comprises the metal.

4. (Original) The method of claim 1, wherein the seed layer comprises a material selected from the group consisting of copper and a copper alloy, and wherein the material comprises the metal.

5. (Original) The method of claim 1, wherein the step of depositing the seed layer on the semiconductor structure comprises the steps of:

depositing a diffusion barrier layer on the structure, the diffusion barrier being capable of preventing diffusion of the metal; and

depositing the seed layer on the diffusion barrier layer.

6. (Original) The method of claim 1, wherein the step of raising the temperature of the seed layer above the water condensation temperature comprises the step of flowing a gas into direct physical contact with the seed layer, the gas being at a temperature higher than the water condensation temperature.

7. (Original) The method of claim 6, wherein the gas comprises a gas inert to materials of the structure.

8. (Original) The method of claim 6, wherein the step of flowing the gas into direct physical contact with the seed layer is performed in a chamber in a sputter tool, and wherein the step of depositing the seed layer on the semiconductor structure is performed in the same sputter tool.

9. (Original) The method of claim 1, wherein the step of raising the temperature of the seed layer above the water condensation temperature is performed in a cool station of a sputter tool.

10. (Original) The method of claim 1, wherein the step of raising the temperature of the seed layer above the water condensation temperature comprises the step of placing the structure including the seed layer on a chuck being at a temperature higher than the water condensation temperature so as to raise the temperature of the seed layer above the water condensation temperature.

11. (Withdrawn) A method for forming a seed layer on a semiconductor structure, the method comprising the steps of:

depositing the seed layer on the semiconductor structure, the seed layer comprising a metal; and

forming on the seed layer a protective layer being inert to water vapor and capable of preventing the seed layer from chemically reacting with water vapor, wherein the seed layer has not been subjected to water vapor prior to the forming step.

12. (Withdrawn) The method of claim 11, further comprising the step of depositing a bulk layer on the protective layer and the seed layer after the step of forming the protective layer, wherein the bulk layer comprises the metal, and wherein the bulk layer is in direct physical contact with the protective layer.

13. (Withdrawn) The method of claim 12, further comprising the step of planarizing a top surface of the bulk layer.

14. (Withdrawn) The method of claim 11, wherein the seed layer comprises a material selected from the group consisting of copper and a copper alloy, and wherein the material comprises the metal.

15. (Withdrawn) The method of claim 11, wherein the step of depositing the seed layer on the semiconductor structure comprises the steps of:

depositing a diffusion barrier layer on the structure, the diffusion barrier being capable of preventing diffusion of the metal; and

depositing the seed layer on the diffusion barrier layer.

16. (Withdrawn) The method of claim 11, wherein the step of forming the protective layer on the seed layer comprises the step of oxidizing a top surface of the seed layer so as to form the protective layer.

17. (Withdrawn) The method of claim 16, wherein step of oxidizing the top surface of the seed layer comprises the step of treating the seed layer with a plasma so as to form the protective layer.

18. (Withdrawn) The method of claim 16, wherein step of oxidizing the top surface of the seed layer comprises the step of treating the seed layer with a neutral gas species so as to form the protective layer.

19. (Withdrawn) The method of claim 11, wherein the step of forming the protective layer on the seed layer comprises the step of treating the seed layer with a chemical to form the protective layer, and wherein the protective layer includes a product of a chemical reaction of the chemical with the metal in the seed layer.

20. (Withdrawn) A method for forming a seed layer on a semiconductor structure, the method comprising the steps of:

depositing the seed layer on the semiconductor structure, the seed layer comprising a metal; and

smoothing a top surface of the seed layer, wherein the seed layer has not been subjected to water vapor prior to the smoothing step.

21. (Withdrawn) The method of claim 20, further comprising the step of depositing a bulk layer directly on the seed layer after the smoothing step, wherein the bulk layer comprises the metal, wherein the bulk layer comprises the metal.

22. (Withdrawn) The method of claim 21, further comprising the step of planarizing a top surface of the bulk layer.

23. (Withdrawn) The method of claim 20, wherein the seed layer comprises a material selected from the group consisting of copper and a copper alloy, and wherein the material comprises the metal.

24. (Withdrawn) The method of claim 20, wherein the step of depositing the seed layer on the semiconductor structure comprises the steps of:

depositing a diffusion barrier layer on the structure, the diffusion barrier being capable of preventing diffusion of the metal; and

depositing the seed layer on the diffusion barrier layer.

25. (Withdrawn) The method of claim 20, wherein the step of smoothing the top surface of the seed layer comprises the step of striking the top surface of the seed layer with a plasma.

26. (Withdrawn) A semiconductor structure, comprising:

a substrate;

a via hole in the substrate;

a diffusion barrier layer deposited on bottom and side walls of the via hole, the diffusion barrier being capable of preventing diffusion of the metal; and

a seed layer deposited on the diffusion barrier layer, the seed layer comprising a copper alloy such that corrosion of the seed layer is prevented in response to the seed layer being subjected to water vapor at a temperature lower than a water condensation temperature.

27. (Withdrawn) The structure of claim 26, further comprising a bulk layer deposited directly on the seed layer, wherein the bulk layer comprises copper.

28. (Withdrawn) The structure of claim 26, wherein the seed layer comprises a protective layer formed on a top surface of the seed layer, wherein the protective layer is inert to water vapor.

29. (Withdrawn) The structure of claim 28, wherein the protective layer comprises silicon oxide.

30. (Withdrawn) The structure of claim 26, wherein a top surface of the seed layer is smooth.